

REMARKS

Claims 1-11, 13 and 15-31 are pending in this application. By this Amendment, claim 12 is canceled and claims 1, 11, 22 and 27-28 are amended. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Applicants gratefully acknowledge the Office Action's indication that claims 3-5, 16-18, 23 and 29-31 are allowable over the prior art. However, for at least the reasons set forth below, Applicants respectfully submit all pending claims are in condition for allowance.

A. The Office Action rejects claim 28 under 35 U.S.C. §112, second paragraph. Applicants respectfully submit the above amendments obviate the grounds for the rejection. Withdrawal of the rejection of claim 28 under 35 U.S.C. §112 is respectfully requested.

B. The Office Action rejects claims 1-2, 6-8, 11, 13, 19-20, 22 and 27-28 under 35 U.S.C. §102(b) over U.S. Patent No. 4,357,497 to Hochmair. The rejection is respectfully traversed.

Applicants respectfully submit that Hochmair does not teach or suggest features recited in claim 1. However, to expedite prosecution, claim 1 is amended to recite wherein the stimulation unit is configured to apply the combined signal to the auditory nerve and combinations thereof as recited in claim 1. [The Office Action admits that a carrier signal does not teach or suggest a second signal as recited in claim 1.] See Item 5 on page 8 of the Office Action. Thus, Applicants respectfully submit that Hochmair does not disclose at least a feature of the stimulation unit configured to apply the combined signal to the auditory nerve and

combinations thereof as recited in claim 1. Further, Applicants respectfully submit Hochmair does not teach or suggest any modification to its disclosure that would result in at least a feature of a stimulation unit and combinations thereof as recited in claim 1.

II With respect to claim 22, Applicants respectfully submit that Hochmair does not teach or suggest a stimulation unit coupled to the signal processor that receives and demodulates the carrier signal to obtain the combined signal for application to the auditory nerve and combinations thereof as recited in claim 22. In particular, Applicants respectfully submit that elements 110, 111 and 112 in the Hochmair reference do not teach or suggest at least a feature of a stimulation unit and combinations thereof as recited in claim 22.

For at least the reasons set forth above, Applicants respectfully submit claims 1 and 22 define patentable subject matter. Claim 11 defines patentable subject matter for at least reasons similar to claim 1. Claims 2, 6-8, 13, 19, 20 and 27-28 depend from claims 1, 11 and 22, respectively, and therefore also define patentable subject matter for at least that reason as well as their additionally recited features. Withdrawal of the rejection of claims 1-2, 6-8, 11, 13, 19-20, 22 and 27-28 under 35 U.S.C. §102 is respectfully requested.

III C. The Office Action rejects claim 22 under 35 U.S.C. §102(b) over U.S. Patent Reissue No. 32,947 to Dormer (hereafter "Dormer"). The rejection is respectfully traversed.

Applicants respectfully submit that Dormer discloses an auditory neural prosthesis including an internal member such as a cochlear implant unit. Applicants respectfully submit modifications asserted by the Office Action to Dormer are improper should they render the

disclosed apparatus inoperable. Applicants respectfully submit that Dormer does not teach or suggest at least a feature of a stimulation unit that receives and demodulates the carrier signal to obtain the combined signal for application to the auditory nerve and combinations thereof as recited in claim 22. Further, Applicants respectfully submit that Dormer does not teach or suggest modifications to its disclosure that would result in at least features of a stimulation unit and combinations thereof as recited in claim 22.

For at least the reasons set forth above, Applicants respectfully submit claim 22 defines patentable subject matter. Withdrawal of the rejection of claim 22 under 35 U.S.C. §102 is respectfully requested.

D. The Office Action rejects claims 1, 11-12, 21-22 and 24-26 under 35 U.S.C. §103(a) over U.S. Patent No. 6,169,813 to Richardson. The rejection is respectfully traversed.

Applicants respectfully submit that Richardson discloses a hearing aid system of the "bone conduction transmission" type. Such a general type of hearing aid system is disclosed in U.S. Patent No. 4,982,434 to Lenhardt et al. (hereafter "Lenhardt"). See column 1, lines 15-26 of Richardson. Applicants enclose a copy of Lenhardt for the convenience of the Examiner.

Applicants respectfully note that the hearing aid and method in Lenhardt uses a bone conduction and parallels the primary hearing response of reptiles. See column 1, lines 57-66 of Lenhardt. The hearing aid and method in Lenhardt discloses a bone conduction attachment to the head for transmission of vibrations to the vestibule (sacculle) as a hearing organ so its response is transmitted via the vestibular nerve, which can substitute for a damaged acoustic

nerve. See column 3, lines 1-5 and 41-45 and column 1, lines 62-68 of Lenhardt. A bone device and apparatus in Lenhardt allows the auditory nerve deaf to hear and provides an alternative source of informational transfer independent of sounds moving through the air. See column 2, lines 33-43 of Lenhardt. Accordingly, Applicants respectfully submit Lenhardt teaches away from applying signals to the auditory nerve. See column 2, lines 37-39 of Richardson.

Thus, Applicants respectfully submit that Richardson does not teach or suggest at least a feature of a stimulation unit coupled to the signal processor that receives the combined signal from the signal processor, wherein the stimulation unit is configured to apply the combined signal to the auditory nerve and combinations thereof as recited in claim 1. Further, Applicants respectfully submit that Richardson does not teach or suggest any modification to its disclosure that would result in at least a feature of a stimulation and combinations thereof as recited in claim 1.

For at least the reasons set forth above, Applicants respectfully submit claim 1 defines patentable subject matter. Claims 11 and 22 define patentable subject matter for at least reasons similar to claim 1. Claims 12, 21 and 24-26 depend from claims 11 and 22, respectively, and therefore also define patentable subject matter for at least that reason as well as their additionally recited features. Claim 12 is canceled. Withdrawal of the rejection of claims 1, 11-12, 21-22 and 24-26 under 35 U.S.C. §103 is respectfully requested.

E. The Office Action rejects claims 9-10 and 15 under 35 U.S.C. §103(a) over Hochmair. The rejection is respectfully traversed.

As described above, Applicants respectfully submit claims 1 and 11 define patentable subject matter over Hochmair. Claims 9-10 and 15 depend from claims 1 and 11, respectively, and therefore also define patentable subject matter for at least that reason as well as their additionally recited features. Withdrawal of the rejection of claims 9-10 and 15 under 35 U.S.C. §103 is respectfully requested.

F. The Office Action rejects claims 16-18 and 29-31 under the judicially created doctrine of obviousness type double patenting over claims 1 and 14 of U.S. Patent No. 6,078,838. The rejection is respectfully traversed.

Applicants respectfully submit that U.S. Patent No. 6,078,838 is not prior art to claims 16-18 and 29-31. Thus, Applicants respectfully request withdrawal of the rejection of claims 16-18 and 29-31 under the judicially created doctrine of obviousness type double patenting.

G. Applicants respectfully request consideration of the attached Information Disclosure Statement.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

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Docket No. UIOWA-26

If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **Carl R. Wesolowski**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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Encs: Petition for Two Month Extension of Time
Information Disclosure Statement

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